



# FEASIBILITY STUDY

*Integrated Procurement System (Case Study)*

**U.S. Department of Housing and Urban Development**

Month, Year

## Revision Sheet

Release No.	Date	Revision Description
Rev. 0	1/31/00	SEO&PMD Feasibility Study
Rev. 1	5/9/00	Feasibility Study Template and Checklist



## Feasibility Study Authorization Memorandum

I have carefully assessed the Feasibility Study for the (System Name). This document has been completed in accordance with the requirements of the HUD System Development Methodology.

MANAGEMENT CERTIFICATION - Please check the appropriate statement.

\_\_\_\_\_ The document is accepted.

\_\_\_\_\_ The document is accepted pending the changes noted.

\_\_\_\_\_ The document is not accepted.

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We fully accept the changes as needed improvements and authorize initiation of work to proceed. Based on our authority and judgment, the continued operation of this system is authorized.

\_\_\_\_\_  
NAME  
Project Leader

\_\_\_\_\_  
DATE

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Operations Division Director

\_\_\_\_\_  
DATE

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Program Area/Sponsor Representative

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Program Area/Sponsor Director

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# FEASIBILITY STUDY

## TABLE OF CONTENTS

	<u>Page #</u>
<b>1.0 GENERAL INFORMATION.....</b>	<b>1-1</b>
1.1 PURPOSE.....	1-1
1.2 SCOPE.....	1-1
1.3 SYSTEM OVERVIEW .....	1-1
1.4 PROJECT REFERENCES.....	1-2
1.5 TERMS AND ABBREVIATIONS.....	1-3
1.6 POINTS OF CONTACT .....	1-3
1.6.1 Information.....	1-3
1.6.2 Coordination .....	1-4
<b>2.0 MANAGEMENT SUMMARY.....</b>	<b>2-1</b>
2.1 ENVIRONMENT.....	2-1
2.1.1 Organization Involved.....	2-1
2.1.2 Input/Output.....	2-1
2.1.3 Processing .....	2-2
2.1.4 Security .....	2-2
2.1.5 System Interaction.....	2-3
2.1.6 Physical Environment .....	2-3
2.2 CURRENT FUNCTIONAL PROCEDURES .....	2-4
2.3 FUNCTIONAL OBJECTIVES.....	2-6
2.4 PERFORMANCE OBJECTIVES.....	2-7
2.5 ASSUMPTIONS AND CONSTRAINTS.....	2-8
2.6 METHODOLOGY .....	2-9
2.7 EVALUATION CRITERIA .....	2-9
2.8 RECOMMENDATION.....	2-10
<b>3.0 PROPOSED SYSTEM .....</b>	<b>3-1</b>
3.1 AND 3.2 DESCRIPTION OF PROPOSED SYSTEM AND IMPROVEMENTS.....	3-1
3.3 TIME AND RESOURCE COSTS.....	3-1
3.4 IMPACTS.....	3-2
3.4.1 Equipment Impacts.....	3-2
3.4.2 Software Impacts .....	3-2
3.4.3 Organizational Impacts .....	3-3
3.4.4 Operational Impacts.....	3-4
3.4.5 Developmental Impacts.....	3-4
3.4.6 Site or Facility Impacts.....	3-5
3.4.7 Security and Privacy Impacts .....	3-5
3.5 RATIONALE FOR RECOMMENDATIONS.....	3-5
<b>4.0 ALTERNATIVE SYSTEMS.....</b>	<b>4-1</b>
4.1 DESCRIPTION OF [ALTERNATIVE SYSTEM NAME].....	4-1

## **1.0 GENERAL INFORMATION**

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### **1.1 Purpose**

In keeping with the Federal Acquisition Streamlining Act (FASA) (1994), the Office of Procurement and Contracts has instituted a formal streamlined procurement and acquisition process. This process is currently supported by a standalone system that automates data collection as well as user interaction and access at various points in the procurement process workflow. Recent updates to FASA, amendments to the Office Federal Procurement Policy Act (1988), and new Congressional reporting requirements advocate the need for cross-functional integration of procurement activities and an expansion in the scope of data reporting and retention requirements. The functional and technological limitations of the current procurement system articulate the need to replace it with a more technologically and functionally capable application in order to facilitate compliance.

The Office of Procurement and Contracts has a proposed technological solution intended to facilitate its compliance with the above-mentioned legislative changes. This solution involves implementing a new Integrated Procurement System to replace the existing procurement system current in use by this office. This Feasibility Study assesses the viability of implementing this new solution as a precursor to determining the project's scope and funding requirements. The objective of this Feasibility Study is to evaluate whether the proposed IPS system is the appropriate investment option.

### **1.2 Scope**

This Feasibility Study focuses on analyzing the comparative technical and functional capabilities of the proposed system with the existing procurement. The key factors used to assess the feasibility of the proposed investment include legislative priorities, system development timeframe, cost and ease of system use.

### **1.3 System Overview**

The Procurement and Contracting Office at Headquarters and the Regional Administrative Offices are responsible for administering the Department's procurement and acquisition process and are the organizations that will share responsibility for the Integrated Procurement System (IPS). IPS will utilize client server architecture to integrate procurement workflow and will be designed to support web-enabled access. This system is a major new application that is designed to support and integrate procurement and acquisition processing activities.

The production environment of the proposed system is described below:

<b>Computing Requirements</b>	<b>Estimated Size</b>	<b>Basis</b>
Personal desktop computer (PC)	CPU: Intel Pentium 133 MHz O/S: Modified MS Windows 95 RAM: 32 MB Local storage: 500 MB	One per User (HUD employee)
Access to SQL Server	500 MB storage	Contractor Team Leader, developers, Procurement System users
Current Procurement System Software access	Icon; 100 bytes storage	Each Procurement System user
LAN Servers	25 MB space on each; 20 MB for application; 5 MB for contingency	Procurement System on production server

## 1.4 Project References

- Federal Acquisition Streamlining Act (FASA) of 1994
- Office of Federal Procurement Policy Act (OFPPA) of 1988
- Government Paperwork Elimination Act (GPEA) of 1998
- Office of Federal Procurement Policy Act Amendments of 1988 (Public Law 100-679)
- HUD System Development Methodology (SDM)
- The current procurement system's Software Quality Assurance Plan
- The current procurement system's Software Configuration Management Plan
- Procedure for Reviewing Project Commitments to External Individuals or Groups with Senior Management
- Procedure for Developing the Software Development Plan
- Procedure for Estimating the Size of the Project Software Work Products
- Procedure for Assessing the Project Critical Computer Resources
- Procedure for Deriving the Project Schedule
- Procedure for Revising the Software Development Plan
- Procedure for Reviewing External Project Commitments and Changes to Commitments with Senior Management
- Powerscript Coding Standards and Naming Conventions

## 1.5 Terms and Abbreviations

Acronym/Abbreviation	Definition
CM	Configuration Management
OPC	The Office of Procurement and Contracts.
FAD	Field Accounting Division.
FOIA	Freedom of Information Act.
FPDC	The Federal Procurement Data Center.
FPDS	The Federal Procurement Data System maintained by the FPDC.
FRD	Functional Requirements Document.
GAO	General Accounting Office
Government	U. S. Government or Federal Government unless otherwise indicated.
GSA	General Services Administration
GTM	Government Technical Monitor.
GTR	Government Technical Representative.
IPS	Integrated Procurement System
JFMIP	Joint Financial Management Improvement Program
GUI	Graphical User Interface.
OFPP	Office of Federal Procurement Policy within OMB.
OIG	Office of Inspector General
OIT	Office of Information Technology.
OMB	Office of Management and Budget within the Executive Office of the President.
Program Office	The Office within the Department that initiates and has primary responsibility for, or interest in, a Procurement of property or services.
SQL	Structure Query Language.
QA	Quality Assurance
SDM	System Development Methodology.
RAD	Rapid Application Development.
WBS	Work breakdown structure.

## 1.6 Points of Contact

### 1.6.1 Information



The following persons can be contacted with questions pertaining to this document:

- Linda Williams, Project Leader, Office of Procurement and Contracts
- Robert Hawley, Project Leader, Office of Procurement and Contracts
- John Moriani, Configuration Manager, Office of Procurement and Contracts

## 1.6.2 Coordination

The following organizations must perform the following activities to ensure the successful development and deployment of the new IPS system:

- Office of Procurement and Contracts (OPC) (Headquarters and 25 Field Offices)
- Office of Information Technology (OIT)
- OPC Contractors

Organization	Coordination Activities	Associated Schedule
OPC	Planning, Project Management	03/07/FY00 – 02/28/FY01
OPC, OPC Contractors	Business Requirements Support, Systems Requirements Support	06/10/FY00 – 07/10/FY00
OPC Contractors	Systems Design and Analysis	06/30/FY00 – 08/30/FY00
OIT, OPC, OPC Contractors	Hardware/Software Acquisition and Integration	06/30/FY00 – 08/15/FY00
OPC Contractors	Development, Development Coordination	08/15/FY00 – 12/31/FY01
OIT, OPC Contractors	System Integration and Testing	01/01/FY01 – 02/01/FY01
OPC Contractors, OIT	Installation, Deployment and Training	02/01/FY01 – 02/28/FY01

## 2.0 MANAGEMENT SUMMARY

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### 2.1 Environment

#### 2.1.1 Organization Involved

Organization	Role/Responsibility
Office of Procurement and Contracts (Includes Headquarters and 25 Field Offices)	Project Sponsor, Users
Office of Information Technology	Computer Services, Network Communications and Technical Infrastructure Support
OPC Contractors	Systems Development

#### 2.1.2 Input/Output

The following lists the input requirements and output capabilities of the proposed system requirements:

##### **Inputs:**

- Capability that allows for the interface to the Department's central accounting system to enable the dual entry of the small purchase transactions
- Capability that allows Program Staff nationwide to enter requests for contract services
- Capability to provide activity-tracking screens for collecting funding and vendor data elements
- Online, offline and remote data entry capability for staff in 25 Field Office locations
- Capability that enables the capture of all the data required to complete the following HUD Forms:
  - FPDS SF 281 and 279 Report
  - HUD 10.4, Requisition for Supplies, Equipment, Forms, Publications and Procurement Services
  - SF-18, Request for Quotations
  - SF-30, Amendment of Solicitation/Modification of Contract
  - OF 347, order for Supplies or Services

##### **Outputs:**

- Capability to provide reports on contract status, status of submitted requests and generate regularly scheduled reports for Program staff nationwide

- Capability to generate timely and accurate reports on contracting activities to HUD management in the Federal Procurement Data Center (FPDC), Office of Management and Budget within the Executive Office of the President (OMB), Congress, and the public
- Capability to generate standardized management reports
- Capability to generate reports on data collected at each Action stage in the workflow

### **2.1.3 Processing**

The system's architecture must support the following processing requirements:

- 24 hours per day availability
- Online access via the Internet with little or no user constraints or performance degradation
- Data interface with the Department's central general ledger and financial accounting systems
- Import and export data to Congress and oversight agencies such as OMB
- Provide information security and safeguard access to sensitive data as well as support IRS and Privacy Act requirements

### **2.1.4 Security**

IPS's security requirements will conform to the IRS Tax Information Security Guidelines which specify that:

1) "All computer systems process, store, or transmit FTI must meet or exceed Controlled Access Protection (Level C2) . . . . To meet C2 requirements, the operating security features of the system must have the following minimum requirements: a security policy, accountability, assurance and documentation. The C2 level of protection is described in the Department of Defense Trusted Computer Security Evaluation Criteria, DOD 5200.28-STD, commonly called the "Orange Book."

2) "The two acceptable methods of transmitting FTI over telecommunication devices are encryption and the use of guided media. Encryption involves the altering of data objects in a way that the objects become unreadable until deciphered. Guided media involves the use of protected microwave transmissions or the use of end to end fiber optics." This requirement will be accommodated in transmissions of FTI between HUD's mainframe computer facility and remote servers.

The system sensitivity and criticality ratings and the data confidentiality, integrity, and availability ratings identify the level of protection required for a system. This is based on a specific series of procedural safeguards and controls. IPS will be designed to support the following security ratings as outlined in HUD Handbook 2400.24 REV-1 ADP Security Program as follows:

RATING TYPE	RATING CODE	RATING DESCRIPTION
System Sensitivity	S4	Major risk. Disclosure or alteration of data would cause major damage to the mission of HUD.
System Criticality	C2	Useful. The system warrants neither a specific contingency plan nor any concern during recovery.
Data Confidentiality	High	The system contains information that requires protection from unauthorized disclosure.
Data Integrity	High	The system contains information, which must be protected from unauthorized, unanticipated or unintentional modification, including the detection of such activities.
Data Availability	Low	The system does not contain information or provide services which must be available on a timely basis to meet mission requirements or to avoid substantial losses.

### 2.1.5 System Interaction

IPS will interface with the Department's central accounting and general ledger systems. In addition, IPS will interface with the Department's Web Access Security System (WASS). This system supports non-application specific security functions and provides security access rights to IPS.

### 2.1.6 Physical Environment

Identify the physical environment (batch processing environment, interactive online transactions, ad hoc reports, external and local communications).

The following table outlines physical processing requirements for the IPS production environment:

Computing Requirements	Estimated Size	Basis
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Computing Requirements	Estimated Size	Basis
Personal desktop computer (PC)	CPU: Intel Pentium 133 MHz O/S: Modified MS Windows 95 RAM: 32 MB Local storage: 500 MB	One per User (HUD employee)
Access to SQL Server	500 MB storage	Contractor Team Leader, developers, Procurement System users
Current Procurement System Software access	Icon; 100 bytes storage	Each Procurement System user
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Overall, the critical physical computer requirements for the development and implementation of the proposed system is listed below:

- Disk storage required for storing and retrieving draft and final copies of software and related work products (host and workstation)
- Testing region on the mainframe that “mirrors” the production environment.
- Testing region on the server that “mirrors” the Department’s General Ledger and Financial System database environment
- Workstation and host computer processor
- Workstation and host computer memory
- Workstation disk storage
- Sufficient disk and memory allocations
- Development and production server access
- Software licenses
- Software tools
- email software and access
- Communication lines
- Contractor computer hardware and software resources used for development of software applications

## 2.2 Current Functional Procedures

The existing procurement system is supported and maintained by staff of three FTEs (i.e., one project leader, one senior programmer/analyst and programmer/analyst) and three contractor staff

members. The processing of high volume, low-dollar value simplified acquisition Actions is outsource to a third party vendor at a cost of &\$700,000.000 annually. In addition, junior and mid-level staff members in the 25 Field Offices utilize a variety of manual processes within their respective offices to process simplified acquisitions such as purchase requisitions, solicitations, awards and other administrative and reporting activities. The process utilized by the current system is outlined below:

<b>1. Submit Requests Functionality</b>	
1.1	The user enters the Request into the procurement system reserves funds and routes the Purchase Request to the Office of Procurement and Contracts
1.2	The Purchase Request is routed to OPC
1.3	The Contracting Officer reviews the Purchase Request and assigns a Buyer
1.4	The Buyer reviews the Purchase Request and decides if a Request for Quotation (RFQ) is required or if it is a direct award
<b>2. Request For Quotations (RFQ)</b>	
2.1	The Buyer reviews the Purchase Request and decides if the purchase can be awarded directly or to use the Solicitation process using the following guidelines: <ul style="list-style-type: none"> <li>• If the purchase has a value of less than \$2,500, the purchase is made by credit card.</li> <li>• If the purchase has a value greater than \$2,500, but less than \$25,000, three vendors are contacted to submit RFQs</li> <li>• If the purchase is greater than \$25,000, but less than \$100,000, the Solicitation is posted in the Commerce Business Daily and on the worldwide web</li> </ul>
2.2	The Buyer completes the bidders list using the Vendors suggested by the Program Office
2.3	When Vendors respond to the Solicitation, the Buyer records Vendors quotes and basic Vendor data in the Abstract form
2.4	The Contracting Specialist uses the procurement system's Abstract Analyzer to determine the lowest bidder
<b>3. Purchase and Deliver Order</b>	
3.1	The Contracting specialist records and uses the procurement system Abstract Analyzer to compare Vendor quotes
3.2	The Buyer completes the Award process via the procurement system by completing the appropriate fields on the Purchase and Delivery Order screens and prints the OF-347
3.3	The Buyer routes a hard copy to the Contracting Officer for review and signature
3.4	The signed Purchase order is mailed to the Vendor
3.5	If the value of the Purchase is greater than \$500, but less than \$25,000, the buyer completes the FPDS screen for SF-281 data. If the value of the Purchase is greater than \$25,000, the FPDS screen is completed for the 279 Federal Procurement Data Systems Report.
<b>4. Amend RFQ</b>	
4.1	The Contracting Specialists enters Amendment data

4.2	SPS creates the Solicitation Amendment
4.3	The Amendment is posted
<b>5. Order Modification</b>	
5.1	The Contracting Specialist modifies the Order, prints the SF-30, and issues the Amendment
5.2	The hard copy of the modification is sent to the Vendor

## 2.3 Functional Objectives

The period of performance for the development and implementation of IPS is estimated to extend over a 9-month period with a target completion date of July 31<sup>st</sup> of the next fiscal year. When deployed, IPS is expected to achieve the following functional objectives:

Functional Considerations	Planned Functional Capabilities
New Services	<ul style="list-style-type: none"> <li>IPS will enable many of the planned new functions by providing web-enabled access</li> </ul>
Legislative/Policy: <ul style="list-style-type: none"> <li>Modular Contracting Support (FASA update)</li> <li>Indefinite Delivery Contracts (OFPPA update)</li> </ul>	<ul style="list-style-type: none"> <li>Establish a standard for user procedures throughout HUD's Offices Procurement and Contracts that support the application of Modular Contracting concepts</li> <li>Provide a uniform processing environment that maintains records of HUD's procurement activities</li> </ul>
Privacy and Security	<ul style="list-style-type: none"> <li>The system will support three levels of security and system access processes as follows:               <p><b>Network.</b> A User must have a Network ID to access the HUD Novell LAN. Once access has been granted to the appropriate file server, the second level of access is necessary. The Department's LAN group maintains the User's LAN Login IDs.</p> <p><b>Domain.</b> The third level of access is defined by the Procurement System's user profile. The domain defined in a user profile limits the user's view of records and ability to perform functions</p> <p><b>System.</b> The second level of access requires a login and password to the Procurement system. The Sponsor's System Administrator maintains user logins.</p> <p><b>User.</b> User identification and authentication will be accomplished through the use of encrypted user</p> </li> </ul>



Functional Considerations	Planned Functional Capabilities
	identification codes and passwords.
Capacity	<ul style="list-style-type: none"><li>• The system will provide extended data storage capacity beyond the current 1 gigabyte. IPS will also support projected capacity expansion resulting from the need to store procurement data from the planning through the contract/post-award stage.</li></ul>
Audit Controls	<ul style="list-style-type: none"><li>• Utilize consolidated database to ensure data consistency and eliminate data entry duplication</li><li>• Interface with the HUD Procurement System and the agency's centralized financial accounting and processing system</li></ul>

## 2.4 Performance Objectives

IPS is expected to achieve the following performance objectives:

- Provide cost savings of over \$700,000.00 in processing fees resulting from the automation of high volume, low-dollar value simplified acquisition business process
- Reduce turnaround time for processing purchase requisition by 50%. This is expected to translate into improved productivity and an annual savings of approximately \$325,000.000 in labor expenses
- 24 hour online access to contract services
- Record 95% of simplified acquisition actions within 3 days of issuance
- Complete 90% of all summary contract action report for all procurement office locations within 10 days of the completion of each calendar year

## 2.5 Assumptions and Constraints

Considerations	Assessment
Operational life of proposed system	<b>Assumption:</b> This system is expected to have an operational life of at least 5 years.
Period of time for comparison of alternatives	<b>Assumption:</b> An in-depth assessment of system alternatives will be obtained from a Cost Benefit Analysis that will be conducted by an independent service provider over the next 4 to 6 weeks. The recommendations resulting from this analysis will drive the system development or acquisition strategy.
Input/Output/Processing Requirements	<b>Constraint:</b> IPS will be designed to interface both with the current HUD procurement system and centralized financial accounting systems. The implementing of this interface requires the resolution of system, technological and data dependencies that may limit the scope of deploying this feature in the first release.
Financial constraints	<b>Constraint:</b> Two other infrastructure projects, sponsored by the Office of Procurement and Contracts are competing for funds from next year's budget dollars allocated to this program. This may impact the allocation of full funding to IPS.
Changing hardware, software, and operating environment	<p><b>Assumption:</b> The system design approach will incorporate "open" systems architecture to accommodate subsequent changes in requirements due to legislative changes or new processing requirements.</p> <p><b>Constraint:</b> IPS deployed is dependent on the successful introduction of new web-enabling technology by an infrastructure project to be submitted for budget review by the Office of Procurement and Contracts.</p>
Availability of information and resources	<b>Constraint:</b> The average tenure of current resources maintaining the current procurement is 3 years. The new features of the proposed system create a skills gap for the addition of at least 4 persons with specialized technical skills not available on the current team. In addition, the loss of intellectual capital of one contractor staff member who is resigning will have be

Considerations	Assessment
	accommodated in the short term.

## 2.6 Methodology

**Benchmarking.** Utilized on the cumulative technical expertise and intellectual capital of senior technical staff to benchmark technical and functional capabilities of the current procurement system against the new requirements and assess the viability of a feasible alternative.

## 2.7 Evaluation Criteria

Evaluation Criteria	Method of Assessment
Legislative Priorities	<p>The legislative requirements set forth in the FASA and OFFPA updates form the basis for determining feasibility of the solution. This included the assessing the following criteria:</p> <ul style="list-style-type: none"> <li>• The feasibility of acquiring an automated solution that will enable the achievement of full compliance within a 2-year time frame.</li> <li>• Whether the solution will enable standardization across procurement processes</li> <li>• Whether the solution will support full lifecycle tracking of procurement actions</li> </ul>
Development Time	<p>The assessment focussed on the capability of the team to fully develop the solution within a 1-year time frame so as to accommodate procurement BPR efforts, implementation and adoption within the stipulated 2 year time-frame. The option considered focussed on the ability to apply rapid application development (RAD) methodology.</p>
Cost	<p>Factors used to assess feasibility included :</p> <ul style="list-style-type: none"> <li>• Conducting comparative cost to upgrade versus replace current procurement system. Within this context the feasibility of a 'make' versus 'buy' or customize options</li> <li>• Use of NPV as a basis for determining cost-savings</li> </ul>
Ease of System Use	<p>The evaluation criteria focussed on assessing:</p> <ul style="list-style-type: none"> <li>• The capability of the solution to facilitate electronic public access within a secured environment (GPRA requirements)</li> <li>• The capability of the solution to support standardized cross-organizational user access and reporting functions to staff in 25 locations</li> </ul>

- |  |   |
|--|---|
|  | <ul style="list-style-type: none"><li>• The capability of the solution to provide nationwide on-line access to enter requests for contract services</li></ul> |
|--|---|

## 2.8 Recommendation

The new capabilities and extended features to be provided by the proposed system will facilitate the necessary legislative compliance and support the execution of OPC's business strategy. The existing procurement system provides adequate automation of current workflow processes but lacks the capabilities to support the new legislative requirements. Moreover, a key consideration that drives the need to replace the current system is the technology obsolescence prevalent in the architecture of the existing system. This justifies the critical need for software/hardware upgrade and or replacement in order to maintain the procurement process workflow efficiency and OPC business effectiveness. An additional decision driver is the short development time frame of the proposed system that easily allows the Department to meet the mandated 2-year compliance deadline. Therefore, it is recommended that the Department move forward with investing in and implementing IPS.

## **3.0 PROPOSED SYSTEM**

## 3.0 PROPOSED SYSTEM

### 3.1 and 3.2 Description of Proposed System and Improvements

When deployed, release 1.0 of IPS will be fully functional web-enabled procurement system. In addition to introducing new web-access capabilities that address new GPEA requirements, IPS will new support FASA, OFPPA and Congress full procurement cycle as well as 7-year historical data storage and reporting requirements by providing expanded data storage capacity. The following table describes the IPS system concept and capabilities along with associate improvements:

Proposed IPS Capabilities	Improvements to be Introduced by Release 1.0 of IPS
<ul style="list-style-type: none"> <li>• Support user interaction in utilizing the Procurement Business Procedures and Procurement workflow</li> <li>• Provide functional access, at logical points of the procurement process workflow (from origination to completion of an Action)</li> <li>• Automate the collection of Procurement life-cycle data into Action workflow stages</li> <li>• Provide processing screens for each Action stage</li> <li>• Provide activity-tracking screens for collecting funding, Vendor, and FPDS data elements.</li> <li>• Provide Action record assignment and ownership to a user by system default and routing assignment until the Action is closed or cancelled</li> <li>• Provide a domain structure where Action records reside and distinguish access rights by Customer</li> </ul>	<ul style="list-style-type: none"> <li>• Provide access to Procurement information at all operational levels               <ul style="list-style-type: none"> <li>• Provide a uniform processing environment that maintains records of HUD's Procurement activities</li> <li>• Establish a standard for User procedures throughout the HUD Procurement and Contracting offices</li> </ul> </li> <li>• Eliminate the overlapping systems used by the HUD Procurement Offices</li> <li>• Reduce system operational and maintenance costs</li> <li>• Incorporate Uniform Purchase and Acquisition Procedures               <ul style="list-style-type: none"> <li>• Utilize a consolidated database to ensure data consistency and eliminate the duplication of data entry</li> </ul> </li> <li>• Interface with the HUD Procurement System (HPS) and the agency's centralized financial accounting and processing System</li> <li>• Provide web-enabled user access</li> </ul>

### 3.3 Time and Resource Costs

Development and implementation of IPS is expected to be a 9-month effort. The time and resource cost estimates and staffing estimates take into account labor, package software acquisition and first year cost of operations.

	Cash		Indirect Load		Total
	Staff	Non-Staff	Staff	Non-Staff	
A. Project Initiation/Planning	\$22,500	\$0	\$17,390	\$0	\$39,890
B. Requirements Definition	\$15,960	\$0	\$1,880	\$0	\$17,840
C. System Design	\$11,000	\$0	\$3,760	\$0	\$14,760
D. Software Acquisition	\$2,400	\$41,753	\$2,820	\$0	\$46,973
E. Hardware/Infrastructure Acquisition	\$6,600	\$0	\$940	\$0	\$7,540
F. New Development/Perfective Maintenance	\$141,600	\$0	\$42,300	\$0	\$183,900
G. System Integration and Testing	\$34,500	\$0	\$4,700	\$0	\$39,200
H. Installation and Deployment and Training	\$40,990	\$0	\$3,760	\$6,300	\$51,050
I. System Operations	\$44,750	\$0	\$0	\$0	\$44,750
J. Corrective and Adaptive Maintenance	\$0	\$0	\$0	\$0	\$0
<b>TOTAL</b>	<b>\$320,300</b>	<b>\$41,753</b>	<b>\$77,550</b>	<b>\$6,300</b>	<b>\$445,903</b>

## 3.4 Impacts

### 3.4.1 Equipment Impacts

The introduction of web-enabled capabilities and expand storage capacity will require upgrades to the current network servers and databases.

### 3.4.2 Software Impacts

Anticipated software upgrades include ColdFusion and SQL server operating system software. In addition, new or updated software development tools and testing tools such as PowerBuilder/Pro 7.0 and RoboHelp 7.0 will be acquired.

### 3.4.3 Organizational Impacts

The following table describes additional resources and specialized skills that will be needed to effect the successful development and implementation of IPS.

Position	Skills	Quantity	Level of Effort
Task Leader	A Bachelor's Degree or 0-3 years of specialized experience as a manager of projects involving one or more of the following area: analysis, design, development, testing, documentation, training or installation. This includes direct supervisory responsibility for personnel and project monitoring.	One	50%
Team Leader	Skills for a Team Leader will initially be established by skills for the technical position for which initially hired (Programmer/Analyst, etc.) Team Leader designations will be made in the appropriate situations where the individual has distinguished themselves technically and provide guidance and support to total task or segment of a task.	One	75%
Data Base Administrator	At least 5 years developing and managing complex databases. Bachelor's and Master's Degree in Computer Science desirable. SQL Server Certification required.	One	50%
Sr. Programmer/Analyst	A Bachelor's Degree in a related field or equivalent experience (2 years) and a minimum of 6 years in the design, development and implementation of large systems including system maintenance, modifications, and resolution of system errors.	Two	100%
Data Modeler	Bachelor's degree in Computer Science, 3 to 5 years experience in data analysis of large systems. In-depth knowledge of SQL query language	One	100%
Senior Business Analyst	A Bachelor's Degree or equivalent education and/or experience (2 years. Must have strong research and analysis skills and excellent verbal and communication skills	One	75%



### 3.4.4 Operational Impacts

Operational Activities	Impacts
User operating procedures	IPS will introduce new standard procedures for procurement processing that will require the re-writing or updating of current user guides
Operating center procedures	New data storage and archiving requirements may necessitate modifications to current Operating center procedures
Operating center/user relationships	Not applicable
Source data processing	Not applicable
Data entry procedures	The new system will automate data entry at various stages in the procurement process workflow that will change current data entry procedures
Data retention requirements, information storage and retrieval procedures (refer to Handbook 2229.1, Records Disposition Scheduling for Automated Systems)	IPS new data retention, storage and retrieval requirements will require updates to the appropriate records disposition guides
Output reporting procedures, media, and schedules	New reporting standards, formats and requirements to be introduced by IPS will require revisions to current procedural documentation
System failure contingencies and recovery procedures	Formal system failure, backup and recovery procedures will need to be developed to accommodate IPS 24 hour operations requirement.

### 3.4.5 Developmental Impacts

Development Activities	Impacts
Specific activities to be performed by the user in support of development of the system	Users will need to modify current processes to reflect and support new data formats and process standards
Resources required to develop databases	The specialized skills of a DBA and a Data Modeler will be needed to support the development of databases

Development Activities	Impacts
Computer processing resources required to develop and test the new system	<ul style="list-style-type: none"> <li>• 4 new licenses for PowerBuilder/Pro 7 will need to be purchased</li> <li>• Access to SQL Server 6.5 will be needed for developers</li> <li>• RoboHelp 7.0, a new technical writing tool will need to be purchased</li> </ul>
Privacy and security implications	Security measures currently in place to support the existing procurement system will need to be expanded to accommodate IPS web security requirements. In addition, network security and user authentication procedures will have to be updated

### 3.4.6 Site or Facility Impacts

There is no significant site or facility impacts based on the current scope of deployment for IPS FY00 schedule of system development and implementation activities

### 3.4.7 Security and Privacy Impacts

Security and privacy impacts are previously described in Section 2.1.4 of this document.

## 3.5 Rationale for Recommendations

Rationale for recommending the proposed system over an alternative approached is presented in Section 2.8 of this document

## 4.0 ALTERNATIVE SYSTEMS

## **4.0 ALTERNATIVE SYSTEMS**

### **4.1 Description of [Alternative System Name]**

The alternative system evaluated for this assessment is OPC's existing procurement system. This functions and features of this system serves essentially as a baseline for the development of the expanded and enhanced capabilities of the proposed system. Therefore, the existing system provides a baseline architecture for the development of the proposed system. The system and architectural issues presented Sections 3.1, 3.2, 3.4.4 and 3.4.5 serve to provide a comparative assessment of the baseline environment of the current system versus the proposed system. As such, the technological and functional gaps identified via the analysis provided in the sections cited above serve to support the justification for not selecting the existing system as a solution.